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290. Proposed by **G. W. GREENWOOD, M. A.**, McKendree College, Lebanon, Ill.

Show that the point (1, 1) is a conjugate point on the locus $x^3+y^3-3xy+1=0$.

MISCELLANEOUS.

158. Proposed by **THEODORE L. DeLAND**, Treasury Department, Washington, D. C.

In ingot of pure gold was melted at the Mint and then 10 ounces were taken out and 10 ounces of pure silver added and the contents of the melting pot mixed thoroughly. This was repeated until there were 10 such operations in all. The contents of the pot being then assayed was found to be nine-tenths fine, or standard gold. What was the weight of the original ingot? There was no loss in the precious metals by the melting.

UNSOLVED PROBLEMS.

NOTE. The following problems still remain unsolved (in our columns).

Diophantine Analysis, No. 132. Proposed by **DR. OSWALD VEBLEN**, Princeton University, Princeton, N. J.

From the numbers, 0, 1, 2, ..., 42, select seven, such that the 42 differences of these seven numbers shall be congruent (mod. 43) to the numbers 0, 1, 2, ..., 42. The differences may be both positive and negative.*

Mechanics, No. 188. Proposed by **H. L. ORCHARD, M. A., B. Sc.** (Unsolved problem in Educational Times, London.)

Spherical bubbles are rising in water. Find the relation between radius and velocity.

NOTES AND NEWS.

Professor J. H. Jeans of Princeton University, has been elected fellow of the Royal Society of London.

Dr. E. B. Wilson has been promoted to an assistant professorship of mathematics at Yale, University.

Dr. Oliver E. Glenn has been appointed instructor in mathematics in the University of Pennsylvania.

Professor W. J. Hussey, of Lick Observatory, has been appointed professor of astronomy at the University of Michigan.

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*These problems involve important principles. Solutions have been contributed, but all incorrect. Will some reader make a study of them? ED. G.

The death is announced of Professor James Mills Peirce, Perkins Professor of Mathematics and Astronomy at Harvard University.

Mr. Louis A. Martin, Jr., has been promoted from instructor to assistant professor of mathematics and mechanics in Stevens Institute of Technology.

The April number of *Annals of Mathematics* contains "Theory of Fourier's Series" (concluded), by M. Bôcher; "Note on Multiply Perfect Numbers," by R. D. Carmichael; "Note on Integrating Factors," by Edwin Bidwell Wilson.

The latter part of Dr. Halsted's essay "The Value of Non-Euclidean Geometry" (*Popular Science Monthly*, November, 1905) has been reprinted in New Zealand with added notes by F. W. Frankland [Okataina, Foxton, Manawatu, New Zealand].

The American Association for the Advancement of Science will hold a summer session at Ithaca, New York, during the week June 26 to July 2. Dr. Edward Kasner is vice president, and Professor L. G. Weld secretary of Section A, Mathematics and Astronomy.

Dr. S. T. Tamura, mathematician in the department of terrestrial magnetism of the Carnegie Institution, has been offered a professorship of dynamics and ship's magnetism in the Naval Staff College, Tokyo, which is the graduate school for Japanese naval officers.

The one hundred and twenty-eighth regular meeting of the American Mathematical Society was held at Columbia University, New York City, on April 28th. The nineteenth meeting of the Chicago Section of the Society convened at Northwestern University, on April 14th. A total of thirty-nine papers were presented at these meetings.

The Thirteenth Summer Meeting and Fifth Colloquium of the American Mathematical Society will be held at Yale University during the entire week of September 3—8, 1906. The Colloquium which will open on Wednesday morning, will include the following courses of lectures: Professor E. H. Moore, "On the theory of bilinear functional operators;" Professor Max Mason, "Selected topics in the theory of boundary value problems of differential equations;" Professor E. J. Wilczynski, "Projective differential geometry."

JAMES MILLS PEIRCE.

The Faculty of Arts and Sciences of Harvard University have adopted the following minutes on the life and services of the late Professor Peirce:

"The Faculty of Arts and Sciences desire to put on record their sense of great loss which they have sustained in the death of Professor James Mills Peirce.

"Born in Cambridge within sound of the College bell, a member of the faculty of Harvard College at twenty, serving for nearly fifty years, not as teacher merely, but successively as secretary of the academic council, as dean—

and almost as father—of the graduate school, and as dean of the faculty of arts and sciences, he spent the whole of a long life in and for the University.

"He was an admirable teacher, steeped in his subject, not buried in it, and always in close sympathy with his students, to whom he was ever a generous and inspiring friend. Broad minded and many sided, his scholarship was of that wide, human kind which unites learning with recognition of every accomplishment of grace of life, with interest in every intellectual problem, and with good will to every earnest man. All his work was characterized by thoroughness and finish, and by a kind of fervid loyalty. He had a high and large conception of academic freedom, and, in age as in youth, he looked forward and not back. Of a peculiarly lovable nature, courteous and kindly, he was known to all who met him for his friendly greeting, his earnest speech, at once measured and impetuous, and his scorn of anything narrow, or crooked, or mean."

At the University of Wisconsin, Dr. Edward B. VanVleck, now professor of mathematics at Wesleyan University, has been appointed to the professorship of mathematics left vacant by the resignation of Professor E. A. VanVelzer.

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BOOK NOTICES.

Elementary Algebra. By G. A. Wentworth. Half Leather, vi+421 pages. Boston, New York, Chicago: Ginn & Co.

One of the best features of this book is a new set of exercises, some four thousand in number, with which the author has supplied the text. The appearance of the volume is attractive; the use of colors in plotting equations may be commended. The author shows a predilection for using more or less useless technical terms, "compound expressions" for polynomials, "scalar numbers" for real numbers, "orthotomics" for imaginaries. The real and imaginary axes are said to intersect "orthotomically." This thing should be avoided in an elementary algebra. The book would be more readable by student and teacher if divested of some inaccuracies. We read on page 1, "Whatever admits of increase or decrease is called *a magnitude.*" The length of a meter stick for example! On page 289 the student learns that "Gravity always impresses upon a body, free to move, a downward velocity of g units each second, whether the body starts from a state of rest or is moving already with any velocity in any direction."

The treatment of Factoring is adequate, as is the graphical work in connection with simultaneous equations and imaginaries. But eleven pages are devoted to solving quadratics by completing the square, while the quadratic formula gets barely three pages, part fine print. The idea of a function is rather difficult for secondary students, but its introduction in the author's excellent section on variation may find justification. The section on "Laws of Physics" should not precede the treatment of variation. On the whole *Elementary Algebra* is not a contribution to mathematical pedagogy, but it is a teachable book and no doubt will meet with considerable success.